

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A DNA polynucleotide that is regulated by a peptide effector comprising:  
a regulatable, catalytically active polynucleotide having a catalytic domain and a regulatory domain, wherein the catalytic activity of the catalytic domain is regulated by the interaction of the peptide effector with the regulatory domain.
2. (Previously Presented) The polynucleotide of claim 1, wherein the peptide effector is further defined as being a protein.
3. (Previously Presented) The polynucleotide of claim 1, wherein the peptide effector comprises a peptide of about 7 and 20 amino acids.
4. (Previously Presented) The polynucleotide of claim 1, wherein the peptide effector comprises a peptide of about 7 and 12 amino acids.
5. (Previously Presented) The polynucleotide of claim 1, wherein the catalytic activity of the catalytic domain is specific for a nucleic acid target sequence.
6. (Previously Presented) The polynucleotide of claim 1, wherein the catalytic activity of the catalytic domain is ligation.
7. (Cancelled)
8. (Cancelled)
9. (Original) The polynucleotide of claim 1, wherein the polynucleotide is at least partially single stranded.

10. (Original) The polynucleotide of claim 1, wherein the polynucleotide is at least partially double stranded.
11. (Original) The polynucleotide of claim 1, wherein the polynucleotide comprises at least one modified base.
12. (Previously Presented) The polynucleotide of claim 1, wherein the peptide effector is endogenous.
13. (Previously Presented) The polynucleotide of claim 1, wherein the peptide effector is exogenous.
14. (Previously Presented) The polynucleotide of claim 1, wherein the peptide effector comprises a phosphorylated peptide.
- 15.-127. (Cancelled)
128. (Currently Amended) A vector comprising:  
a regulatable, catalytically active, DNA polynucleotide having a catalytic domain and a regulatory domain, wherein the catalytic activity of the catalytic domain is regulated by the interaction of a peptide effector with the regulatory domain.
- 129.-136. (Cancelled)
137. (Previously Presented) The polynucleotide of claim 1, wherein the catalytic activity of the catalytic domain is cleavage.